



The Impact of Forest Thinning on Perceptions of Recreational Value and Forest Health

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Project Title: The Impact of Forest Thinning on Perceptions of Recreational Value and Forest Health

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Introduction

Forested drinking water source catchments such as Wungong contribute significant volumes of high quality surface water to the public water supply system. They also provide a range of environmental services and social and economic values. Two popular recreational activities in these catchments are bushwalking and off-road cycling. There is pressure from recreation groups to increase access to these catchments.

Research Questions

The Wungong Trial is evaluating a number of silvicultural treatment options for the Wungong catchment. What effect would such treatments have on recreational users of these catchments? Would forest and water resource managers view these treatments differently from outdoor recreationalists? Are some treatment options more acceptable in terms of forest health, scenic values, or as outdoor recreation settings?

Treatment Options

Five silviculture treatment options, including a control condition, were selected for the study (Table 1). The test variables were the basal area (m^2/ha), the thinning method (i.e. notch or cut stump) and regrowth control (i.e. controlled or uncontrolled).

Table 1. Treatment options

	Basal Area	Thinning Method	Regrowth Treatment
1.	35-40 m^2/ha	None (control)	None (control)
2.	15 m^2/ha	Cut Stump	Controlled
3.	15 m^2/ha	Notching	Controlled
4.	8 m^2/ha	Cut Stump	Controlled
5.	8 m^2/ha	Cut Stump	Uncontrolled

Study data was collected through an online survey, including computer generated photo simulations of the treatment options. The questionnaire built upon the results of a literature review, preliminary field studies and pre-testing. For each treatment option (i.e. forest scene), five images were prepared using the 3D modeling software Google Sketchup. The images represented Years 1, 5, 25, 50 and 70 after the initial thinning treatment.

Study Participants

The study included three groups:

- Professional forest or water resource managers
- Bushwalkers (Bibbulmun Track Foundation members)
- Off-road cyclists (Munda Biddi Trail Foundation members)

The online questionnaire was completed by 203 individuals. Post-survey interviews were conducted with 10 participants from each group. Study participants were not informed that the images of forest scenes represented silvicultural treatment options associated with the Wungong Research Trial.

Key Findings

- Forest and water managers and recreationalists apply similar indicators when judging forest health.
- Many of the same visual cues are used to judge forest health and scenic beauty:
 - Regeneration
 - Density
 - Forest structure complexity
 - Mixed age trees
 - Signs of human intervention
- Perceptions of forest health strongly influence perceptions of scenic beauty. However, those not confident in their ecological knowledge rely on beauty to indicate health.
- The ability to move through the forest landscape is the main indicator of recreation potential.
- Best predictors of forest management preferences are environment-economic values orientation and expertise in silviculture.
- Furthest apart are those with a non-interventionist management philosophy (e.g. “leave forest to its natural life cycle”) and those with a active management philosophy (e.g. “help the forest reach its potential”).
- Treatment preferences:
 - All groups preferred the no treatment option.
 - Notching is likely to be rejected by the community.
 - Among the cut stump options, higher forest density is favoured.
- The reason for thinning matters, with ecological benefits favoured over public water supply.
- If alternative water supply source options are available, the community will be less likely to accept catchment thinning to increase public water supply.
- Those with a strong eco-centric values orientation are unlikely to accept thinning regardless of the purpose.
- Other factors that may significantly influence silvicultural treatment acceptability include:
 - Trust in the resource manager
 - Ratio of costs to benefits

Recommendations

- Notching should not be employed as a thinning method in areas used for outdoor recreation.
- Resource managers should provide the community with information about how a forest will change over time in response to a silvicultural treatment. This would increase the public’s ability to make informed judgements.
- Areas for further research:
 - Repeat the study with members of the public unaffiliated with a particular user group.
 - Test the role of information in acceptability judgements.

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